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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/822,431 | 04/12/2004 | Guillermo Roa | 112056-0164 | 2566 |

24267 7590 08/16/2010

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| EXAMINER | |
|---|---|
| DUONG, THOMAS | |
| **ART UNIT** | **PAPER NUMBER** |
| 2445 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 08/16/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/822,431 | ROA, GUILLERMO | |
| | Examiner | Art Unit | |
| | Thomas Duong | 2445 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 July 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *3-13, 15, 17-19 and 27-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-13, 15, 17-19 and 27-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 April 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Request for Continued Examination*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

2. Amendment received July 27, 2010 has been entered into record. *Claims 3-13, 15, 17-19 and 27-29* remain pending.

### *Response to Amendment*

3. This office action is in response to the Applicants' Amendment filed on July 27, 2010. Applicants amended *claims 3, 12-13, 15 and 17*, canceled *claims 1-2, 16, 20 and 24-26* and added *claims 27-29*. *Claims 3-13, 15, 17-19 and 27-29* are presented for further consideration and examination.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. *Claims 27-29* are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchishiba et al. (US 20020016812A1), in view of Kazar et al. (US6868417B2), in view of Shu et al. (US7555772B2) and further in view of Saraiya et al. (US7685281B1).

6. With regard to *claims 27-29*, Uchishiba discloses,

- *a processor; a memory coupled to the processor;* (Uchishiba, para.40) Uchishiba discloses, *"As described above, the computer system has an instruction processor, a main storage device, and an I/O channel, and the hypervisor controls the assignment of these resources to the logical partitions"*.
- *a storage operating system resident in the memory and executed by the processor, the storage operating system implementing a file system configured to provide storage service of information stored on the system;* (Uchishiba, para.48) Uchishiba discloses, *"In the case of the main storage device: when the capacity shortage of the virtual storage device has been detected, and the thrashing state of the OS has been detected since a space area is not produced due to the consecutive occurrence of accesses to the virtual storage despite a plurality of times of page out instructions issued by an operation monitoring program in the OS to a memory control program in the OS to secure a space area".*
- *a plurality of context data structures stored in the memory and containing configuration information to establish a plurality of instances of virtual servers executed by the processor, each virtual server allocated resources that include a*

*partitioning of the network interfaces and assigned network addresses to establish a distinct security domain for that virtual server that enables controlled access to the allocated network interfaces and assigned network addresses, each virtual server further configured to share access to the file system to service the block-based protocol data access requests by converting the block-based protocol data access requests to appropriate file system data requests when providing the storage service of the information stored on the system.* (Uchishiba, abstract)

Uchishiba discloses, *"A logical partitioned computer system. A hypervisor includes a resource management table for managing resources assigned to the hypervisor and an assigning/collecting unit for assigning and collecting resources to logical partitions. Each logical partition has a guest resource monitoring unit for monitoring the amount of the resource being used out of the amount of the resource assigned to the logical partition and an adding/separating unit for requesting addition and separation of a resource to the assigning/collecting unit based on results of monitoring. In response to the request, assigning/collecting unit searches resource management table, assigns a resource to logical partition when a reserve resource exists in case of an assignment request, and collects a resource as a reserve resource in the resource management table in case of a collection request"*.

However, Uchishiba does not explicitly disclose,

- *a plurality of network interfaces configured to process received block-based protocol data access requests, each network interface assigned to one or more network addresses, each network interface further assigned an identifier that*

*binds the network interface to an address space that includes the one or more network addresses; and*

- *a plurality of context data structures stored in the memory and containing configuration information to establish a plurality of instances of virtual servers executed by the processor, each virtual server allocated resources that include a partitioning of the network interfaces and assigned network addresses to establish a distinct security domain for that virtual server that enables controlled access to the allocated network interfaces and assigned network addresses, <u>each virtual server further configured to share access to the file system to service the block-based protocol data access requests by converting the block-based protocol data access requests to appropriate file system data requests when providing the storage service of the information stored on the system.</u>*

Kazar teaches,

- *<u>a plurality of network interfaces configured to process received block-based protocol data access requests,</u> each network interface assigned to one or more network addresses, each network interface further assigned an identifier that binds the network interface to an address space that includes the one or more network addresses; and* (Kazar, col.9, line 64 – col.10, line 4)

  Kazar discloses, *"The block_login operation passes in a user ID and a password, and authenticates the user for the service. Based upon the user, the server chooses a particular file system to which the user's block read and write operations will be applied. This file system must be a SAN file system, which means that it contains one file, whose blocks corresponding directly to the block addresses read or written by the block service client"*. Hence, Kazar teaches of

the virtual server through its assigned network interface (i.e., Applicant's network interfaces) choosing (i.e., Applicant's configured to process) the user's block read operation (i.e., Applicant's received block-based protocol data access request).

- *a plurality of context data structures stored in the memory and containing configuration information to establish a plurality of instances of virtual servers executed by the processor, each virtual server allocated resources that include a partitioning of the network interfaces and assigned network addresses to establish a distinct security domain for that virtual server that enables controlled access to the allocated network interfaces and assigned network addresses, each virtual server further configured to share access to the file system to service the block-based protocol data access requests by converting the block-based protocol data access requests to appropriate file system data requests when providing the storage service of the information stored on the system.* (Kazar, col.9, line 64 – col.10, line 4)

  Kazar discloses, *"The block_login operation passes in a user ID and a password, and authenticates the user for the service. Based upon the user, the server chooses a particular file system to which the user's block read and write operations will be applied. This file system must be a SAN file system, which means that it contains one file, whose blocks corresponding directly to the block addresses read or written by the block service client"*. Hence, Kazar teaches of the virtual server through its assigned network interface (i.e., Applicant's network interfaces) choosing (i.e., Applicant's configured to process) the user's block read operation (i.e., Applicant's received block-based protocol data access request).

by converting (implied) the requests to the particular file system (i.e., Applicant's appropriate file system) based upon the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Kazar with the teachings of Uchishiba to provide a system that is capable of appropriately handling block-based protocol requests from the clients through virtualization of the servers.

However, Uchishiba and Kazar do not explicitly disclose,

- *a plurality of context data structures stored in the memory and containing configuration information to establish a plurality of instances of virtual servers executed by the processor, each virtual server allocated resources that include a partitioning of the network interfaces and assigned network addresses to establish a distinct security domain for that virtual server that enables controlled access to the allocated network interfaces and assigned network addresses, each virtual server further configured to share access to the file system to service the block-based protocol data access requests by converting the block-based protocol data access requests to appropriate file system data requests when providing the storage service of the information stored on the system.*

Shu teaches,

- *a plurality of context data structures stored in the memory and containing configuration information to establish a plurality of instances of virtual servers executed by the processor, each virtual server allocated resources that include a partitioning of the network interfaces and assigned network addresses to establish a distinct security domain for that virtual server that enables controlled access to the allocated network interfaces and assigned network addresses,*

*each virtual server further configured to share access to the file system to service the block-based protocol data access requests by converting the block-based protocol data access requests to appropriate file system data requests when providing the storage service of the information stored on the system.* (Shu, col.8, lines 55-62)

Shu discloses, *"A firewall can be partitioned into multiple virtual systems. either or both of the Gi Firewall 163 or GTP Firewalls 143 can be within a virtual system. Each virtual system is a unique security domain and can be managed by administrators who can individualize (e.g., including setting up address books and policies) the security protections for the given domain. The Gi Firewall 163 and GTP Firewall 143 can be either in the same virtual system or in different virtual systems"* (Shu, col.8, lines 55-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Shu with the teachings of Uchishiba and Kazar to provide sufficient security check among members accessing data stores based on the associated security domain.

However, Uchishiba, Kazar and Shu do not explicitly disclose,

- *a plurality of network interfaces configured to process received block-based protocol data access requests, each network interface assigned to one or more network addresses, each network interface further assigned an identifier that binds the network interface to an address space that includes the one or more network addresses; and*

Saraiya teaches,

- *a plurality of network interfaces configured to process received block-based protocol data access requests, each network interface assigned to one or more network addresses, each network interface further assigned an identifier that binds the network interface to an address space that includes the one or more network addresses; and* (Sarayai, col.14, lines 32-40)

  Uchishiba discloses, *"the resources including a plurality of first-network IP addresses that resolve to the data center from locations on the first network, a first mass storage region, at least a first storage I/O interface coupled to the first mass storage region, a communications link having a first bandwidth to the first network, at least a first network I/O interface coupled to the communications link, and at least a first symmetric multi-processor compute-complex having at least one physical partition"*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Sarayai with the teachings of Uchishiba, Kazar and Shu to provide sufficient security check among members accessing data stores based on the associated security domain.

7. *Claims 3, 6, 12-13, 15 and 17* are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchishiba (US 20080025297A1), in view of Kazar et al. (US6868417B2), in view of Shu et al. (US7555772B2), in view of Saraiya et al. (US7685281B1) and further in view of Becker-Szendy et al. (US7243089B2).

8. With regard to *claims 3 and 17*, Uchishiba, Kazar, Shu and Saraiya disclose,

See *claims 27-28* rejection as detailed above.

However, Uchishiba, Kazar, Shu and Saraiya do not explicitly disclose,

- *further comprising storage media configured to store information as units of storage resources, the units of storage resources allocated among each of the virtual servers.* (Becker-Szendy, col.3, lines 50-67)

  Becker-Szendy discloses, *"The term "disk" references the actual storage device, whether it is an individual disk (attached via DAS or SAN), or a logical unit on a disk array. Disks that are used by the storage tank system 300 are attached via a SAN. The SAN may be comprised of, for example, fiber channel, iSCSI, etc. A disk that partitions its storage space into many objects is an object store device, also referenced as an object based store. The traditional disk is called a block disk. The storage tank system 300 can use both traditional block disks, as well as object store devices to store the contents of files"* (Becker-Szendy, col.3, lines 50-67). Hence, Beck-Szendy teaches of the actual storage device (i.e., Applicant's storage media) partitioned (i.e., Applicant's configured to store information) its storage space into many object store devices (i.e., Applicant's units of storage resources). Becker-Szendy teaches the storage tank system, which includes the virtual storage tank server and the virtual object storage server (i.e., Applicant's virtual servers), using (i.e., Applicant's allocated) both traditional block disks and object store devices (i.e., Applicant's units of storage resources).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Becker-Szendy with the

teachings of Uchishiba, Kazar, Shu and Saraiya to provide sufficient security check among members accessing data stores based on the associated security domain.

9. With regard to *claim 6*, Uchishiba, Kazar, Shu, Saraiya and Becker-Szendy disclose,

- *wherein the file system is configured to perform a boundary check to verify that a request is allowed to access certain units of the storage resources on the storage media, each virtual server further configured to create virtual disks within the units of storage resources and wherein each of the virtual disks is associated with one or more of the virtual servers.* (Becker-Szendy, col.1, line 10 – col.20, line 48; Kazar, col.1, line 7 – col.11, line 19)

  Becker-Szendy discloses, *"Data consistency is maintained in that existing applications may modify data in the file system during migration or federation. During federation, other computer systems (or hosts) may modify the data in the file system if access control information allows them to do so. All changes in the file system are seen consistently on all hosts. Minimal downtime is required to install the present system and reconfigure the existing applications to communicate with the present system"* (Becker-Szendy, col.3, lines 20-28).

10. With regard to *claims 12-13*, Uchishiba, Kazar, Shu, Saraiya and Becker-Szendy disclose,

- *wherein the block-based protocol comprises iSCSI.* (Becker-Szendy, col.1, line 10 – col.20, line 48; Kazar, col.1, line 7 – col.11, line 19)

  Becker-Szendy discloses, *"The term "disk" references the actual storage device, whether it is an individual disk (attached via DAS or SAN), or a logical unit on a*

*disk array. Disks that are used by the storage tank system 300 are attached via a SAN. The SAN may be comprised of, for example, fiber channel, iSCSI, etc. A disk that partitions its storage space into many objects is an object store device, also referenced as an object based store. The traditional disk is called a block disk. The storage tank system 300 can use both traditional block disks, as well as object store devices to store the contents of files"* (Becker-Szendy, col.3, lines 50-67).

- *wherein the block-based protocol comprises FCP.* (Becker-Szendy, col.1, line 10 – col.20, line 48; Kazar, col.1, line 7 – col.11, line 19)

  Becker-Szendy discloses, *"The term "disk" references the actual storage device, whether it is an individual disk (attached via DAS or SAN), or a logical unit on a disk array. Disks that are used by the storage tank system 300 are attached via a SAN. The SAN may be comprised of, for example, fiber channel, iSCSI, etc. A disk that partitions its storage space into many objects is an object store device, also referenced as an object based store. The traditional disk is called a block disk. The storage tank system 300 can use both traditional block disks, as well as object store devices to store the contents of files"* (Becker-Szendy, col.3, lines 50-67).

11. With regard to *claim 15*, Uchishiba, Kazar, Shu, Saraiya and Becker-Szendy disclose,

- *wherein the system is further configured to process data access requests in response to one or more file-level protocols.* (Becker-Szendy, col.1, line 10 – col.20, line 48; Kazar, col.1, line 7 – col.11, line 19)

Becker-Szendy discloses, *"The present invention satisfies this need, and presents a system, a computer program product, and an associated method (collectively referred to herein as "the system" or "the present system") and a service for federating a local file system into a distributed file system (FS), while preserving local access to the existing data in the local file system. The present system may provide indirect access to local file systems using protocols such as, for example, storage tank protocols, object-based storage protocols, block-based protocols, etc. The server-based design of the present system allows systems to migrate their data and share the management of data. The data is federated, or made available to various clients by making it on-line to each client. The present system may be used with any file system protocol that supports migration, consistency and multi-host federation"* (Becker-Szendy, col.2, lines 49-64).

12. *Claims 4-5 and 18-19* are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchishiba (US 20080025297A1), in view of Kazar et al. (US6868417B2), in view of Shu et al. (US7555772B2), in view of Saraiya et al. (US7685281B1), in view of Becker-Szendy et al. (US7243089B2) and further in view of Mane et al. (US20050050107A1).

13. With regard to *claims 4-5 and 18-19*, Uchishiba, Kazar, Shu, Sarayai and Becker-Szendy disclose,

See *claims 3 and 17* rejection as detailed above.

However, Uchishiba, Kazar, Shu, Sarayai and Becker-Szendy disclose, do not explicitly disclose,

- *wherein the units of storage resources comprise volumes.*

- *wherein the units of storage resources comprise qtrees.*

Mane teaches,

- *wherein the units of storage resources comprise volumes.* (Mane, para.1-53) Mane discloses, *"The processor 25 includes a number of program layers, including a network interface 26 for coupling to the data network, a file system layer 27 for organizing data into a hierarchical file system of files and directories, a volume layer 28 for organizing the data into logical volumes of data blocks, and a Small Computer System Interface (SCSI) driver 29 for linking the volume layer 28 to the disk storage 24"* (Mane, para.25). Hence, Mane teaches of logical volumes of data blocks (i.e., Applicant's volumes) as units of storage resources.
- *wherein the units of storage resources comprise qtrees* (Mane, para.1-53) Mane discloses, *"In accordance with another aspect, the invention provides a method of maintaining quotas for storage resources used by a file server for storing files in selected directory trees of a file system. The file server has a tree quota database of usage values of the storage resources and limit values for the storage resources for the selected directory trees of the file system"* (Mane, para.6). Hence, Mane teaches of a tree quota database (i.e., Applicant's qtree) as a unit of storage resources.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Mane with the teachings of Uchishiba, Kazar, Shu, Sarayai and Becker-Szendy disclose, to *"[provide] a method of maintaining quotas for storage resources used by a file server for storing files in selected directory trees of a file system"* (Mane, para.5). Mane discloses, *"A preferred way of preventing the renaming of a file from causing an undesired nesting*

*of quota trees is to prevent the renaming of a file from causing a file to be moved into, out of, or between quota trees. In the preferred implementation, the quota are treated as if they were separate file systems by returning a cross-device error if the renaming of a file would otherwise cause a file to be moved into, out of, or between quota trees"* (Mane, para.48). Becker-Szendy discloses, *"What is therefore needed is a system, a service, a computer program product, and an associated method for federating an old system into a new system, and optionally migrating data from an old system to a new system. This method should operate seamlessly and efficiently with minimum disruption to existing applications running on the system. Further, this method should ensure data consistency for existing applications while making the data available for migration in a federated system. The need for such a solution has heretofore remained unsatisfied"* (Becker-Szendy, col.2, lines 35-44).

14. *Claims 7-11* are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchishiba (US 20080025297A1), in view of Kazar et al. (US6868417B2), in view of Shu et al. (US7555772B2), in view of Saraiya et al. (US7685281B1), in view of Becker-Szendy et al. (US7243089B2) and further in view of George et al. (US7010663B2).

15. With regard to *claim 7*, Uchishiba, Kazar, Shu, Sarayai and Becker-Szendy disclose,

See *claim 6* rejection as detailed above.

However, Uchishiba, Kazar, Shu, Sarayai and Becker-Szendy do not explicitly disclose,

- *wherein the storage operating system further comprises a user interface having a command set configured to operate on virtual disks, and wherein the command set executes within a context of a virtual server.*

George teaches,

- *wherein the storage operating system further comprises a user interface having a command set configured to operate on virtual disks, and wherein the command set executes within a context of a virtual server.* (George, col.1, line 8 – col.14, line 58)

  George discloses, *"Referring now to FIG. 2, the data storage device 120 of FIG. 1 is shown that provides for managing a plurality of virtual LUNs over one or more existing volumes of storage within the storage device 120, in accordance with one embodiment of the present invention. The data storage device 120 comprises two interfaces for receiving and sending command line interface (CLI) instructions and Input/Output (I/O) data. The interfaces include a CLI interface and a hypertext transfer protocol (HTTP) interface"* (George, col.5, lines 33-41). Hence, George teaches of two interfaces (i.e., Applicant's user interface) for receiving and sending instructions (i.e., Applicant's having a command set) for managing (i.e., Applicant's configured to operate on) a plurality of virtual LUNs (i.e., Applicant's virtual disks) over one or more existing volumes of storage via the virtualization layer (i.e., Applicant's within a context of a virtual server).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of George with the teachings of Uchishiba, Kazar, Shu, Sarayai and Becker-Szendy to provide a method for *"partitioning the existing volumes into a plurality of slices. Each of the plurality of*

*slices is then mapped to the plurality of virtual LUNs. Furthermore, each of the plurality of virtual LUNs is masked to each of the plurality of host applications to provide access control. Moreover, the plurality of host applications are transparently interfaced with the existing volumes via a virtualization software layer that interfaces with and preserves the originally configured internal intelligence (e.g., internal operating code) that accesses the plurality of volumes"* (George, col.2, lines 39-49). Georges discloses, *"Embodiments of the present invention relate to the field of data storage systems. More particularly, embodiments of the present invention relate generally to the expansion of an existing data storage system into a plurality of virtual data storage systems"* (George, col.1, lines 9-13). Becker-Szendy discloses, *"What is therefore needed is a system, a service, a computer program product, and an associated method for federating an old system into a new system, and optionally migrating data from an old system to a new system. This method should operate seamlessly and efficiently with minimum disruption to existing applications running on the system. Further, this method should ensure data consistency for existing applications while making the data available for migration in a federated system. The need for such a solution has heretofore remained unsatisfied"* (Becker-Szendy, col.2, lines 35-44).

16. With regard to *claims 8-9*, Uchishiba, Kazar, Shu, Sarayai, Becker-Szendy and George disclose,

- *wherein the user interfaces comprises a command line interface (CLI) configured to support the command set.* (George, col.5, lines 33-41)

George discloses, *"Referring now to FIG. 2, the data storage device 120 of FIG. 1 is shown that provides for managing a plurality of virtual LUNs over one or more existing volumes of storage within the storage device 120, in accordance with one embodiment of the present invention. The data storage device 120 comprises two interfaces for receiving and sending command line interface (CLI) instructions and Input/Output (I/O) data. The interfaces include a CLI interface and a hypertext transfer protocol (HTTP) interface"* (George, col.5, lines 33-41).

- *wherein the CLI comprises a lun command configured to perform operations to a virtual disk associated with the context of the virtual server.* (George, col.5, lines 42-54)

  George discloses, *"Typically, the CLI interface provides access by a user (e.g., system administrator) to configure, update, and/or modify the data storage device 120, such as, creating or removing virtual LUNs, and expanding or reducing the size of virtual LUNs, etc. In FIG. 2, the CLI interface is provided through port task 215 that functions essentially for properly routing the CLI instructions through storage device 120. In another embodiment, the HTTP interface, through port task 210, also allows access by a user to configure the storage device 120. In addition, the HTTP interface, through port task 210, provides for an avenue for access by other users and host applications to the data storage device 120, as will be discussed"* (George, col.5, lines 42-54).

17. With regard to *claims 10-11*, Uchishiba, Kazar, Shu, Sarayai, Becker-Szendy and George disclose,

- *wherein the lun command creates a logical unit number on the file system, the logical unit number being associated with the context of the virtual server.* (George, col.4, lines 11-17)

  George discloses, *"This disclosure describes a method and apparatus for slicing one or more volumes of storage into a plurality of virtual LUNs, thereby increasing the number of accessible LUNs within a data storage network. Also, another embodiment of the present invention discloses a method and system for increasing the number of host applications that can access and use a particular volume of storage"* (George, col.4, lines 11-17).

- *wherein the CLI comprises an igroup command that generates a set of file system primitive for binding an initiator group to one or more initiator addresses and wherein the initiator group is associated with the context of the virtual server.* (George, col.1, line 8 – col.14, line 58)

### ***Response to Arguments***

18. Applicant's arguments with respect to *claims 27-29* have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Duong whose telephone number is 571/272-3911. The examiner can normally be reached on M-F 7:30AM - 4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571/272-7304. The fax phone numbers for the organization where

this application or proceeding is assigned are 571/273-8300 for regular communications and 571/273-8300 for After Final communications.

*/Thomas Duong/*

*Patent Examiner, Art Unit 2445*

*August 14, 2010*

*/VIVEK SRIVASTAVA/*

*Supervisory Patent Examiner, Art Unit 2445*